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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,537	04/24/2001	Shunpei Yamazaki	SEL 255	5906

7590 01/03/2003

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EXAMINER

PRENTY, MARK V

ART UNIT	PAPER NUMBER
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2822

9

DATE MAILED: 01/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/841,537

Applicant(s)
YAMAZAKI et al.

Examiner
Prenty

Art Unit
2822



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 19, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-13, 17-21, 25-30, 34, and 35 is/are rejected.
- 7) ☒ Claim(s) 5-7, 14-16, 22-24, and 31-33 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Apr 24, 2001 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4-6 6) ☐ Other: _____

This Office Action is in response to the response filed November 19, 2002.

Claim 28 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, dependent claim 28 is incorrect in reciting "wherein said projected portions comprise a same material as one selected from the group consisting of a semiconductor layer, a gate electrode, and a gate insulating film of said thin film transistor," because independent claim 27, on which claim 28 depends, recites that the projected portions are formed on the insulating film which defines the thin film transistor's gate insulating film, which limits the projected portion to being formed of the same material as the thin film transistor's gate electrode.

Claims 1-4, 8, 10-13, 17, 19-21, 25, 27-30 and 34 are rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al. (United States Patent 6,208,395).

With respect to independent claim 1, Kanoh et al. disclose a semiconductor device (see the entire patent, particularly the Fig. 19 disclosure) comprising: a thin film transistor comprising a semiconductor layer 17 on an insulating surface, an insulating film 16 on said semiconductor layer and a gate electrode 15 on said insulating film; a plurality of projected portions 21 on said insulating surface; an interlayer insulating film 30 covering said thin film transistor and said projected portions, said interlayer insulating film having a projected and recessed surface; and a pixel electrode 10 electrically connected to said thin film transistor, said pixel electrode having a projected and recessed surface on said interlayer insulating film.

Claim 1 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 2, Kanoh et al's projected portions 21 comprise a same material as one selected from the group consisting of a semiconductor layer, a gate electrode, and a gate insulating film of said thin film transistor.

Claim 2 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 3, Kanoh et al's projected portions 21 have different heights or different shapes.

Claim 3 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 4, Kanoh et al's pixel electrode 10 comprises aluminum (see column 24, lines 59-62, for example).

Claim 4 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 8, Kanoh et al's semiconductor device is a reflection type liquid crystal display device (see the title, for example).

Claim 8 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to independent claim 10, Kanoh et al. disclose a semiconductor device (see the entire patent, particularly the Fig. 10 disclosure) comprising: a thin film transistor 6 comprising a semiconductor layer 17 on an insulating surface 5, an insulating film 16 on said semiconductor layer and a gate electrode 15 on said insulating film; a plurality of projected portions 21 on said insulating surface; and a pixel electrode 10 in contact with said projected portions, said pixel electrode having a projected and recessed surface and electrically connected to said thin film transistor.

Claim 10 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 11, Kanoh et al's projected portions 21 comprise a same material as one selected from the group consisting of a semiconductor layer, a gate electrode, and a gate insulating film of said thin film transistor.

Claim 11 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 12, Kanoh et al's projected portions 21 have different heights or different shapes.

Claim 12 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 13, Kanoh et al's pixel electrode 10 comprises aluminum (see column 14, lines 49-59, for example).

Claim 13 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 17, Kanoh et al's semiconductor device is a reflection type liquid crystal display device (see the title, for example).

Claim 17 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to independent claim 19, Kanoh et al. disclose a semiconductor device (see the entire patent, particularly the Fig. 19 disclosure) comprising: a thin film transistor comprising a semiconductor layer 17 on an insulating surface, an insulating film 16 on said semiconductor layer and a gate electrode 15 on said insulating film; a

plurality of projected portions on said insulating film (i.e., at least the top layer of elements 21); an interlayer insulating film 30 covering said thin film transistor and said projected portions, said interlayer insulating film having a projected and recessed surface; and a pixel electrode 10 electrically connected to said thin film transistor, said pixel electrode having a projected and recessed surface on said interlayer insulating film.

Claim 19 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 20, Kanoh et al's projected portions have different heights or different shapes.

Claim 20 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 21, Kanoh et al's pixel electrode 10 comprises aluminum (see column 24, lines 59-62, for example).

Claim 21 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 25, Kanoh et al's semiconductor device is a reflection type liquid crystal display device (see the title, for example).

Claim 25 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to independent claim 27, Kanoh et al. disclose a semiconductor device (see the entire patent, particularly the Fig. 10 disclosure) comprising: a thin film transistor 6 comprising a semiconductor layer 17 on an insulating surface 5, an insulating film 16 on said semiconductor layer and a gate electrode 15 on said

insulating film; a plurality of projected portions on said insulating film (i.e, at least the top layer of elements 21); and a pixel electrode 10 in contact with said projected portions, said pixel electrode having a projected and recessed surface and electrically connected to said thin film transistor.

Claim 27 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 28, Kanoh et al's projected portions comprise the same material as the gate electrode of said thin film transistor.

Claim 28 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 29, Kanoh et al's projected portions have different heights or different shapes.

Claim 29 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 30, Kanoh et al's pixel electrode 10 comprises aluminum (see column 14, lines 49-59, for example).

Claim 30 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

With respect to dependent claim 34, Kanoh et al's semiconductor device is a reflection type liquid crystal display device (see the title, for example).

Claim 34 is thus rejected under 35 U.S.C. §102(e) as being anticipated by Kanoh et al.

Claims 9, 18, 26 and 35 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kanoh et al. (United States Patent 6,208,395) together with

Yamazaki et al. (United States Patent 6,013,930).

The difference between Kanoh et al's semiconductor device and the claimed semiconductor devices is the claimed semiconductor devices are used in a variety of electronic devices.

Yamazaki et al. teach that liquid crystal display semiconductor devices are conventionally used in the claimed variety of electronic devices (see the entire patent, particularly the paragraph bridging columns 29 and 30).

It would have been obvious to one skilled in this art to use Kanoh et al's liquid crystal display semiconductor device in the claimed variety of electronic devices, because liquid crystal display semiconductor devices are conventionally used in the claimed variety of electronic devices, as taught by Yamazaki et al.

Claims 9, 18, 26 and 35 are thus rejected under 35 U.S.C. §103(a) as being unpatentable over Kanoh et al. together with Yamazaki et al.

Claim 5 is objected to as being dependent on a rejected base claim (i.e., claim 5 would be allowable over the prior art of record if claim 5 were amended to further include all the limitations of independent claim 1).

Claim 6 is objected to as being dependent on a rejected base claim (i.e., claim 6 would be allowable over the prior art of record if claim 6 were amended to further include all the limitations of independent claim 1 and dependent claim 5).

Claim 7 is objected to as being dependent on a rejected base claim (i.e., claim 7 would be allowable over the prior art of record if claim 7 were amended to further include all the limitations of independent claim 1 and dependent claim 5).

Claim 14 is objected to as being dependent on a rejected base claim (i.e., claim 14 would be allowable over the prior art of record if claim 14 were amended to further

include all the limitations of independent claim 10).

Claim 15 is objected to as being dependent on a rejected base claim (i.e., claim 15 would be allowable over the prior art of record if claim 15 were amended to further include all the limitations of independent claim 10 and dependent claim 14).

Claim 16 is objected to as being dependent on a rejected base claim (i.e., claim 16 would be allowable over the prior art of record if claim 16 were amended to further include all the limitations of independent claim 10 and dependent claim 14).

Claim 22 is objected to as being dependent on a rejected base claim (i.e., claim 22 would be allowable over the prior art of record if claim 22 were amended to further include all the limitations of independent claim 19).

Claim 23 is objected to as being dependent on a rejected base claim (i.e., claim 23 would be allowable over the prior art of record if claim 23 were amended to further include all the limitations of independent claim 19 and dependent claim 22).

Claim 24 is objected to as being dependent on a rejected base claim (i.e., claim 24 would be allowable over the prior art of record if claim 24 were amended to further include all the limitations of independent claim 19 and dependent claim 22).

Claim 31 is objected to as being dependent on a rejected base claim (i.e., claim 31 would be allowable over the prior art of record if claim 31 were amended to further include all the limitations of independent claim 27).

Claim 32 is objected to as being dependent on a rejected base claim (i.e., claim 32 would be allowable over the prior art of record if claim 32 were amended to further include all the limitations of independent claim 27 and dependent claim 31).

Claim 33 is objected to as being dependent on a rejected base claim (i.e., claim 33 would be allowable over the prior art of record if claim 33 were amended to further

include all the limitations of independent claim 27 and dependent claim 31).

Registered practitioners can telephone examiner Prenty at (703) 308-4939. Any voicemail message left for the examiner must include the name and registration number of the registered practitioner calling, and the application's Serial Number. Technology Center 2800's general telephone number is (703) 308-0956.

Mark Prenty